UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

NOVEMBER 1968

PART II–Fishing Information*

Sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists

CONTENTS

Page

1968 Pacific Coast Albacore Tuna Season Ends With Near-Record Landings 1

Sea Surface Temperature Charts, Eastern Pacific Ocean, November 1968 6

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1968 PACIFIC COAST ALBACORE TUNA SEASON ENDS WITH NEAR-RECORD LANDINGS

Fall storms have terminated nearly all albacore tuna fishing activity on the Pacific Coast for 1968--and as fishermen, canners, and governmental agencies began adding up their receipts, a near-record landings year has emerged. Oregon established the production leadership: an estimated 41 million pounds were landed, surpassing the previous record of 29 million pounds set just last year. California's landings pulled up from a dismally poor 1.8 million pounds at the end of August to nearly 13.5 million pounds by mid-November, making 1968 the worst production year since 1947. Washington landings have been estimated at about 2.5 million pounds, and British Columbia albacore landings have also been pegged at 2.5 million pounds. Thus, the combined total of 59-60 million pounds places the 1968 production in the third highest position for all years since 1940.

A major dislocation in the center of production was observed this year. We estimate that less than one-half million pounds were taken from the region south of Point Conception, whereas between 52 and 55 million pounds originated from the district north of Cape Mendocino. The remaining 4 to 8 million pounds were produced between Point Conception and Cape Mendocino.

Although this production total suggests near-record fishing conditions, such has not been the case. The regular albacore fleet was joined by a large portion of the Oregon-Washington and British Columbia salmon fleets and also by appreciable numbers of halibut schooners. Consequently, total fishing effort is estimated to have risen sharply, and the catch was divided more thinly between the boats than in previous years. To explain the course of events leading to this situation, it is necessary to recapitulate the major events occurring during each month of the season:

June: The second week of the month witnessed the first authenticated report of albacore taken by BCF R/V David Starr Jordan on June 12 off San Juan Seamount. The catch was the earliest verified arrival of the albacore since 1965, and suggested that the fish were arriving on the Pacific Coast feeding grounds up to 2-3 weeks earlier than in the previous 3 years. The price dispute between fishermen and processors continued through the month, keeping the commercial fleet tied in port. Meanwhile, the southern California sportfishing partyboat fleet began to find albacore in numbers on all the customary banks by month-end. Weatherwise, conditions were generally good for fleet action in the southern-central California offshore region

during the first 3 weeks; in the fourth week intensified upwelling brought on by strong northwest winds developed a band of green, cold water south of Point Conception. Open-ocean warming trends suggested that the 60-degree isotherm was beginning to build rapidly northeastward into the Oregon coastline at mid-month.

July: Sharp temperature rises in Oregon offshore waters created favorable conditions for the movement of albacore into this district in the first week. The fishing vessel Sunrise, operating under charter to the Fish Commission of Oregon, logged her first catch off central Oregon on July 2 and thereafter proceeded to set a new preseason record before returning to Astoria on July 9. News of the fishermen-processors price agreement reached the fleet on July 9, and by the close of the second week, virtually all of the fleet had gone to sea in quest of albacore. On July 10, the first 200-fish day was reported off Coos Bay. At the same time in southern California, sportfishing partyboats had logged the second good week while commercial boats experienced poor catches. The early reports of bonanza fishing in Oregon caused a mass northward shift of the fleet, when by July 20, southern California was showing the poorest fishing on record for the month since 1941. On July 18, it was estimated that about 60% of the California fleet had already started to move north. On July 21, the first 1100-fish day was reported off Oregon, and thereafter the midsummer fate of the California fishery was sealed: all boats that could do so moved to Oregon-Washington waters. California fish buyers extended purchasing commitments to Oregon ports in the last week of the month as commercial action in California continued to show very poor production potentials. Catch data broadcast daily from R/V David Starr Jordan, at sea off northern California and Oregon since July 15, gave clear indications that the albacore were most abundant in the north. Winds and sea conditions remained generally good during the month, except for strong northwesterly winds near shore off Oregon and northern California; boats operating 150 miles or more offshore experienced few days when weather limited fishing operations. July landings came to over 7 million pounds in Oregon, exceeding the previous record of 2.6 million pounds set in 1948.

August: Intermittent strong winds and rough seas near shore during the first 2 weeks slowed fishing appreciably by forcing the small, less seaworthy boats into port. Another pulse of upwelling resulted, diverting some effort back to salmon, especially from August 8 to 12 off southern Oregon and northern California. During the last week of the month, an early storm moved southeastward from the Gulf of Alaska, forcing almost all of the fleet into port. When the boats returned to the grounds, they experienced difficulty in locating fish. The concentration of albacore that was fished heavily from August 20-23 off Vancouver Island was not found again; by August 28, an estimated 300 boats had moved south to near Cape Mendocino and off Fort Bragg. All month long, major Oregon port facilities were jammed intermittently. Some buyers and processors were unable to cope with the surges in landings brought on by the windy weather, and 4-5 day unloading delays were commonplace. Oregon observed an 18-20 million pound month, establishing yet another all-time record.

September: Declining albacore availability, first observed by the fleet in early August, became a common complaint in the first week of the month. Some of the newer, larger boats moved out 150-200 miles to fish in Washington offshore waters. California fishermen operating out of Eureka and Crescent City reported that rough seas and strong northwest winds hampered access to the fish in that district, and all areas witnessed considerable boat movement as the fleet searched widely over the entire region from off Vancouver Island to Fort Bragg. On September 10, a fleet of 300 boats, mostly trollers, was reported to be working off northern California while a few large baitboats reported their first good catches of the year off Oregon. Gale warnings posted in Washington and Oregon on September 13 forced the small boat fleet into port, while the bigger boats slogged through rough seas on the grounds. Although the third week of the month was generally too rough for good fishing, some good catches were logged near the Dumping Grounds off the Columbia River. Northern California fishing began to pick up again, but only during respites from the persistent windy weather. During the last week of the month, baitboat fishing activity was reported to be very good off Oregon with daily scores to 2500 fish being tallied. These good reports induced many trollers to move northward again from California waters, and all boats fared well until the end of the month, despite cooling water trends and persistent rough weather in the Oregon-Washington area.

October: October normally registers the rapid decline and close of albacore fishing activity in Pacific Northwest waters. This year, many boats operated straight through to the end of the month before considering closing their seasons. In the first week, fishing continued to hold, despite rough weather. Northern and central California districts reported increased activity as boats moved southward to escape the weather and as fish became increasingly harder to locate. Halibut schooners made the best showing despite the weather, probably due to their excellent seakeeping characteristics. A short spurt of good live bait fishing occurred off San Martin Island, Baja California during the week. This activity was associated with a late-season upwelling pulse along this sector of the coast, and was short-lived. Expectations for a good late-season run in this district thus failed to materialize. Baitboat activity persisted off the Columbia River in the second week, despite increasingly bad weather and plummeting sea temperatures. In the third week of the month, central California became the best fishing spot along the entire Pacific Coast. Despite the bad weather, baitboats "hanging tough" off Cape Lookout, Oregon, reported catches up to 950 fish per day in 58-59° F water. Albacore were reported to be running deep off central California, and trollers began laying up their gear and heading for port. Few reports were received by us after October 23, and by the last week of the month, only a handful of boats remained in operation off Monterey and San Francisco 80-120 miles offshore. Consequently, we terminated our 1968 daily fishery information broadcast services as scheduled on October 31.

November: Despite widespread bad weather and virtual closure of the season's activity in most ports, poor-to-good albacore fishing persisted in 58-60° F water off central California up to November 20. A small number of baitboats and jigboats participated in this flurry of action, scoring up to 300 fish per day. California landings reflected this last-ditch activity as totals slowly continued to rise right up to the end of the month.

In summary, despite the apparent near-record fishing season, as revealed in landing figures, 1968 was far from a good year for many albacore fishermen. Intermittent bad weather and rough seas plagued the fleet in the Pacific Northwest as early as the first week of August, sharply reducing fishing efficiency. Oceanographic warming trends had been well-established by late June, setting up above-normal conditions favoring the record northern fishery; however, the remainder of the heating season from July 15 on was near-average at best. Albacore tuna schools were observed to be widely scattered over a vast district off Oregon and Washington when surveyed by BCF R/V David Starr Jordan. The remainder of the season witnessed more of the same, with few of the usual "signs":few jumping or breezing fish, few porpoise and birds, scarcity of baitfish schools, and no major aggregations of fish which remained for more than 2-3 days at a time in one area (except for the Dumping Grounds off the Columbia River).

The 1968 season was thus primarily a troll fishery: jigboats fared reasonably well, whereas baitboats did not do well until late September. Many baitboats took a sizeable portion of their total season's catch on jigs trolled and chummed with an occasional bait, either live, frozen or salted. Purse seiners faired badly this year: very few large schools were available for good purse seine operations, and the weather severely restricted operations even when fishable aggregations were located.

The early-season price dispute probably cost the industry about 2 weeks of good fishing in late June and early July when albacore were present in numbers off southern California. Unloading delays in Pacific Northwest ports probably also caused the loss of another week of prime fishing time during the peak of fishing in August. And finally, windy weather this year probably put a large percentage of the fleet out of action for a cumulative total of 1-2 weeks per vessel during the course of the season. Thus, even though the season lasted for about 125-130 consecutive days after opening on July 10, as many as 30-35 days were probably lost to the conditions outlined above, thereby reducing the season to 90-95 working days.

Clearly, to be able to predict these highly variable social, economic, biological and physical events in advance of the season, and to arrive at relatively finite landings projections well before seasonal patterns have emerged, poses a most difficult

challenge. In the absence of sufficient data of these kinds to provide good statistical bases for such forecasts, our best approach appears to be one where we must obtain all available information on a current basis, and to observe and recognize changing trends as quickly as they can be detected. By doing so, we are thus better able to provide to the albacore tuna fishing industry the data which it needs to operate efficently. We solicit your comments and suggestions for improving our fishery monitoring and prediction services program in 1969. Next year's schedule of activities will be announced in the April 1969 issue of this publication.

December 5, 1968

Glenn A. Flittner
Leader, Fishery-Oceanography Program

SEA SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN
NOVEMBER 1968

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Fishing Vessels; Concho, Elsie A. Westport

Charts

Figure 1. --Mean sea surface temperatures (°F) derived from approximately 8000 observations. Squares show temperatures at weather ship stations. Numerals on shore are temperatures at coastal and lightship stations.

Figure 2. --Deviation of sea surface temperatures (°F) from long term charts of H. O. 225. Hatched areas are colder in 1968.

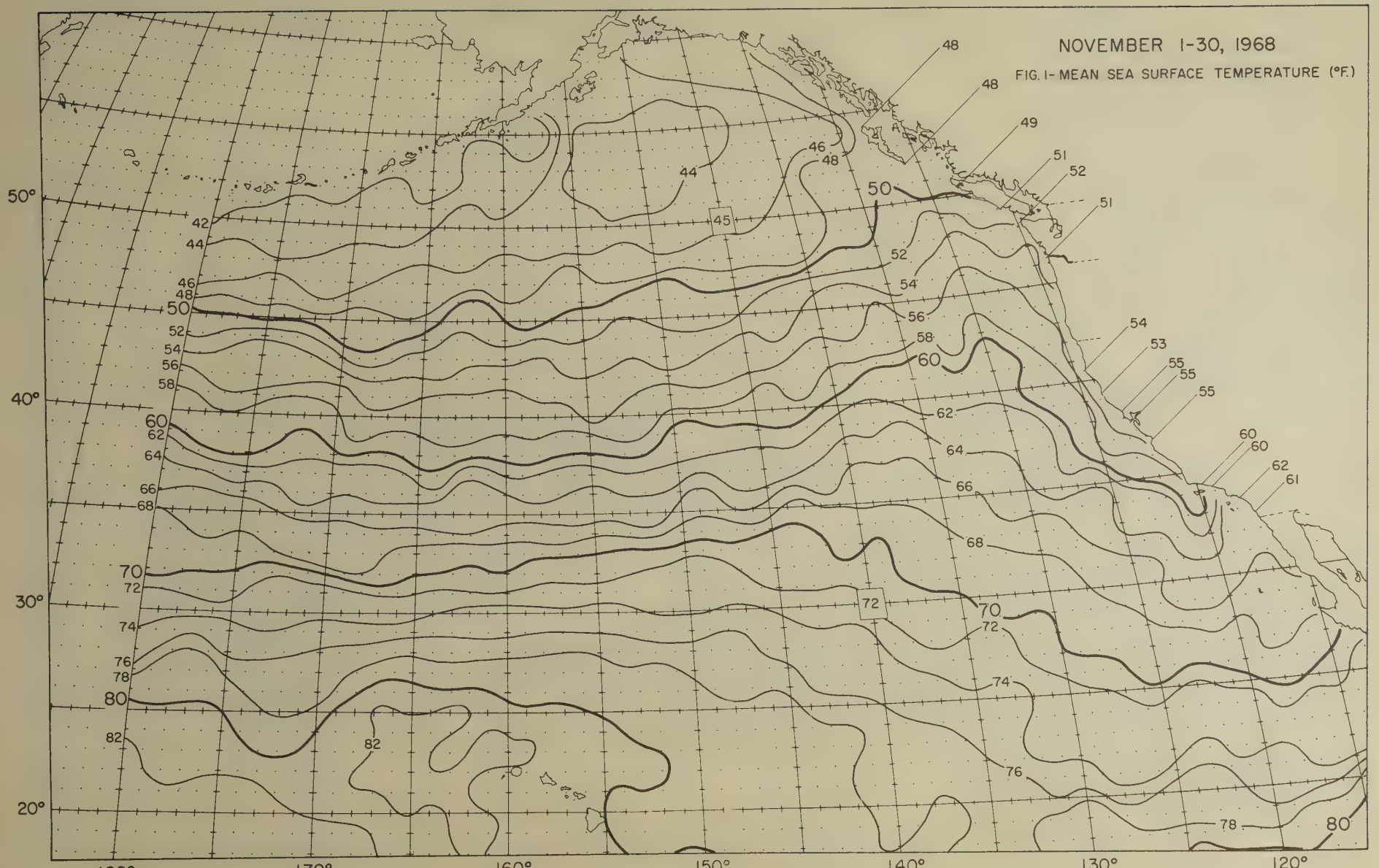
Figure 3. --Deviation of sea surface temperatures (°F) from those of November 1967. Hatched areas are colder in 1968.

Figure 4. --Sea surface temperatures (°F) by 1-degree squares, approximately 2000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal stations.

Figure 5. --Deviation of sea surface temperatures (°F) November 1968-November 1967 by 1-degree squares. Shaded areas are colder in 1968.

Figure 6. --Deviation of sea surface temperatures (°F) from 12-year mean (1947-1958) by 2-degree squares. Shaded areas are colder in 1968.

James A. Renner, Fishery Biologist
Kenneth S. Raymond, Scientific Illustrator
December 9, 1968


NOVEMBER 1-30, 1968
FIG. 1- MEAN SEA SURFACE TEMPERATURE (°F.)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
48
48
49
51
52
51
46
48
44
50
42
44
45
52
46
48
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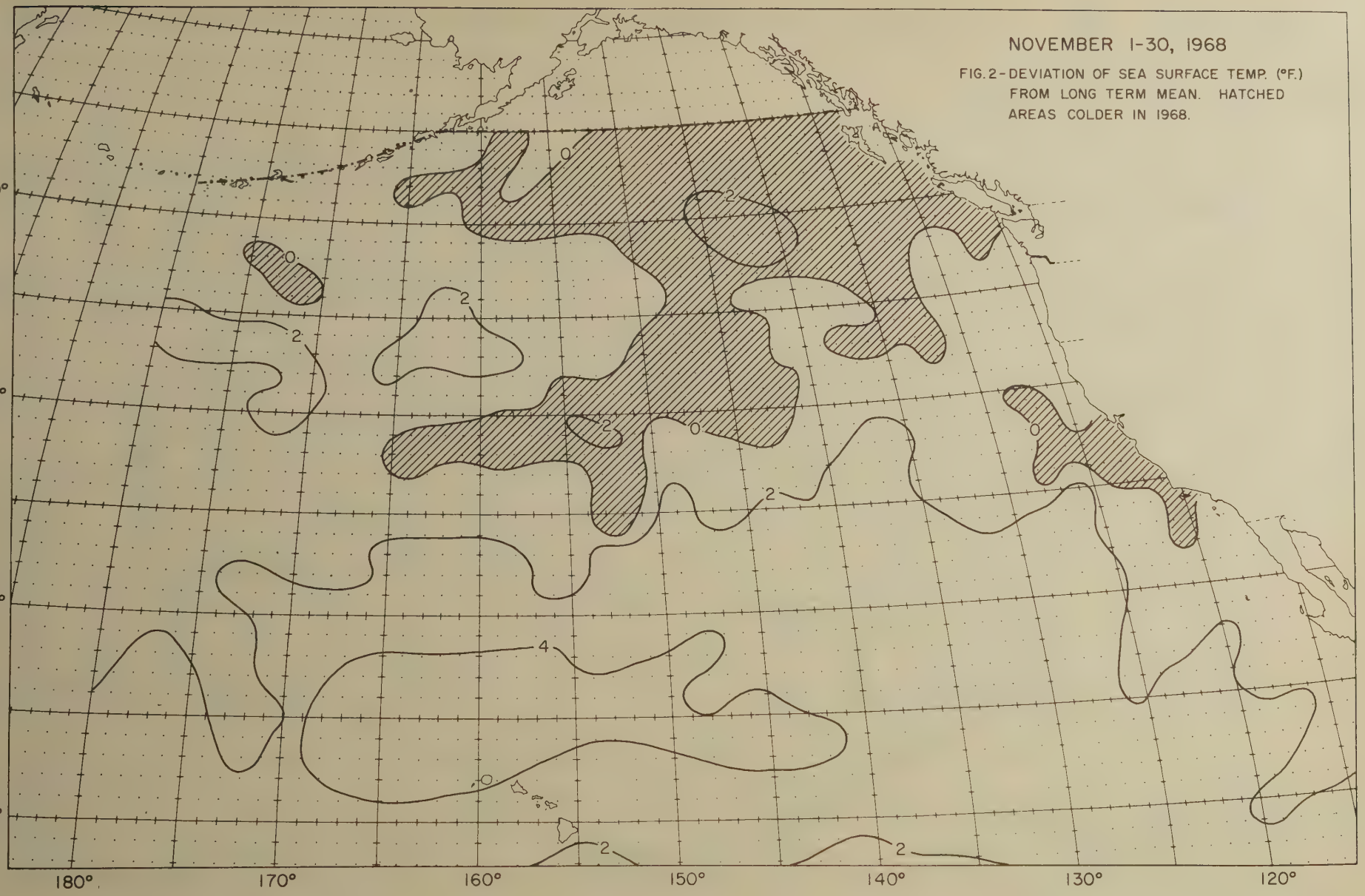
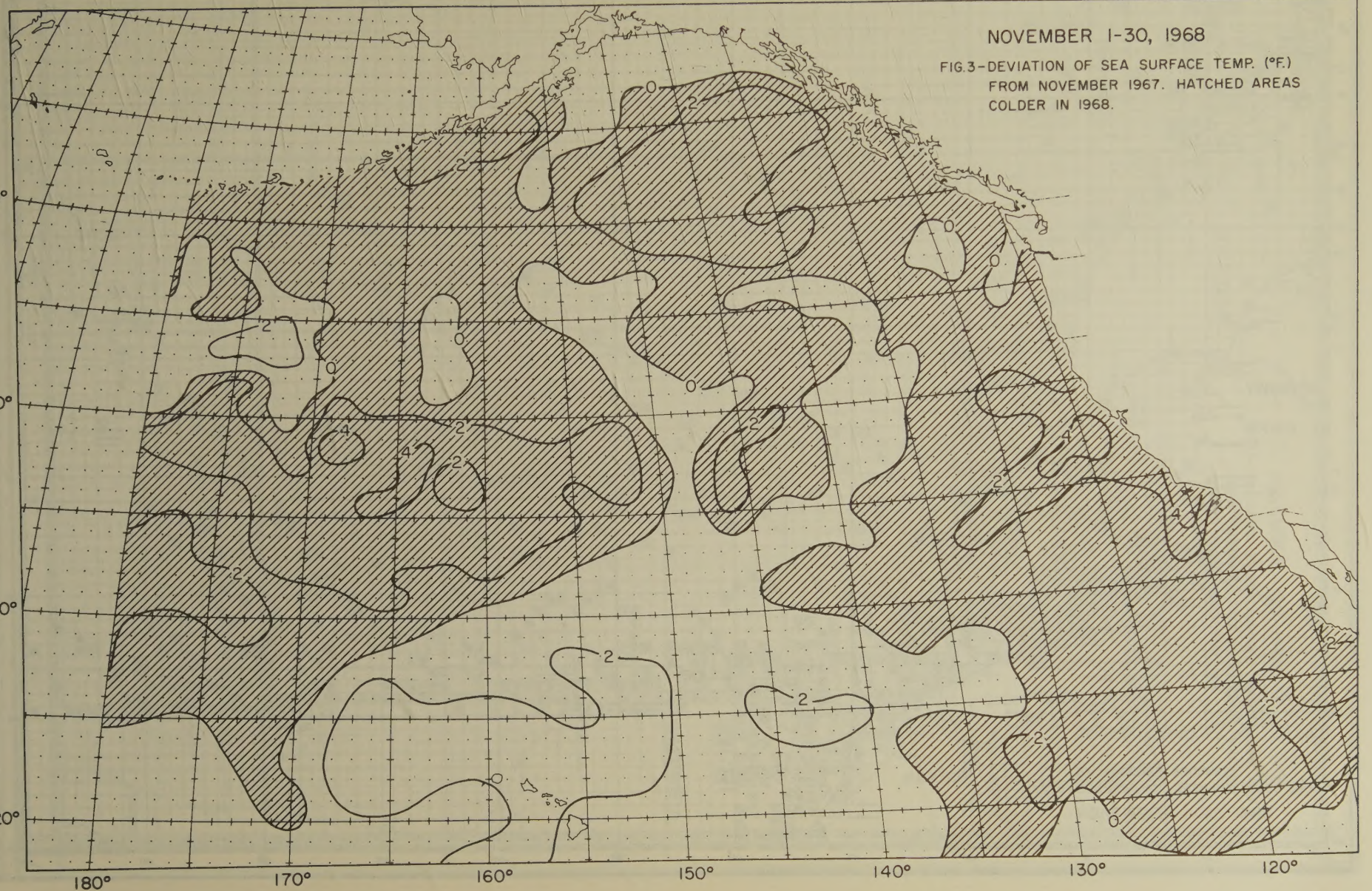
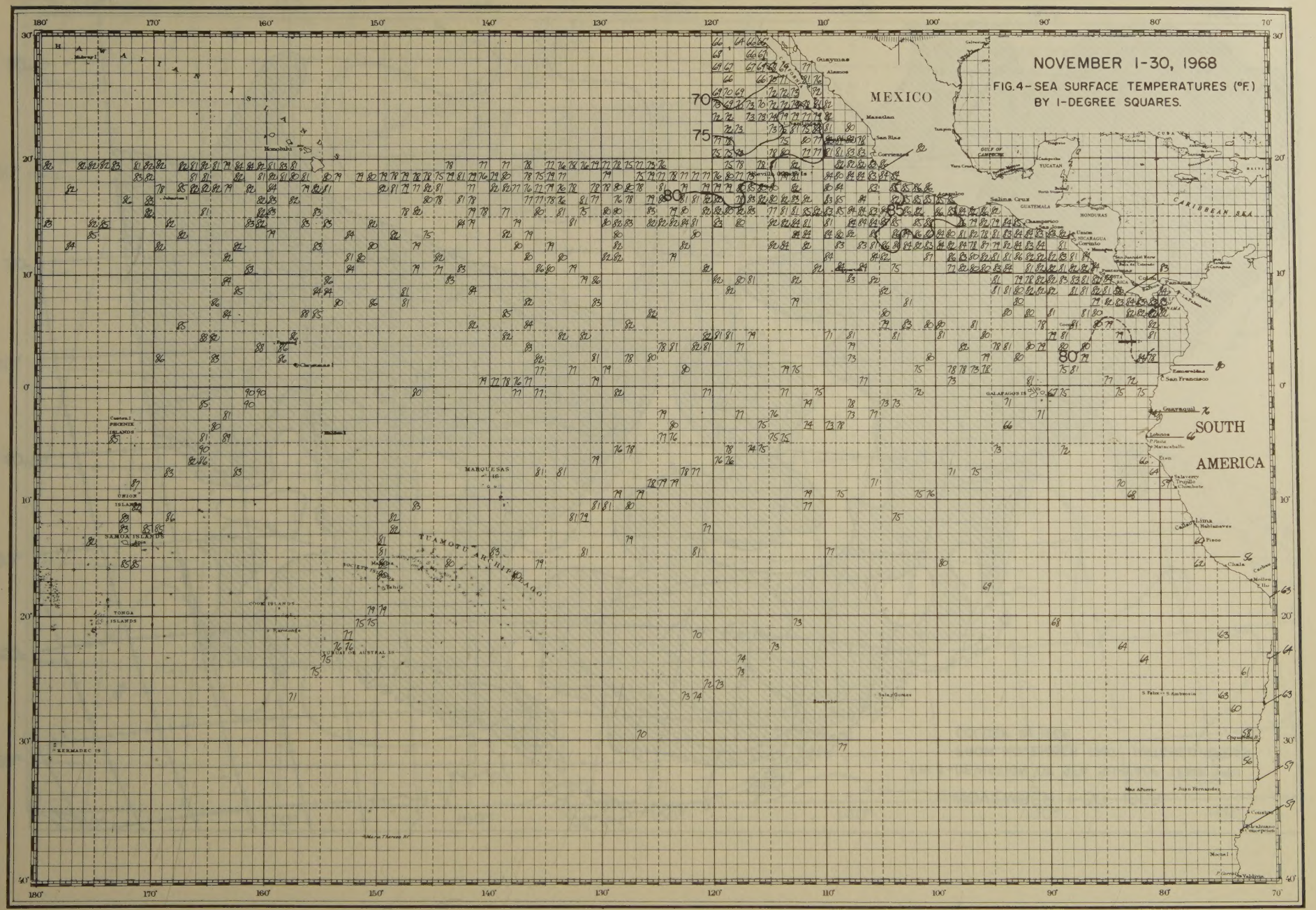
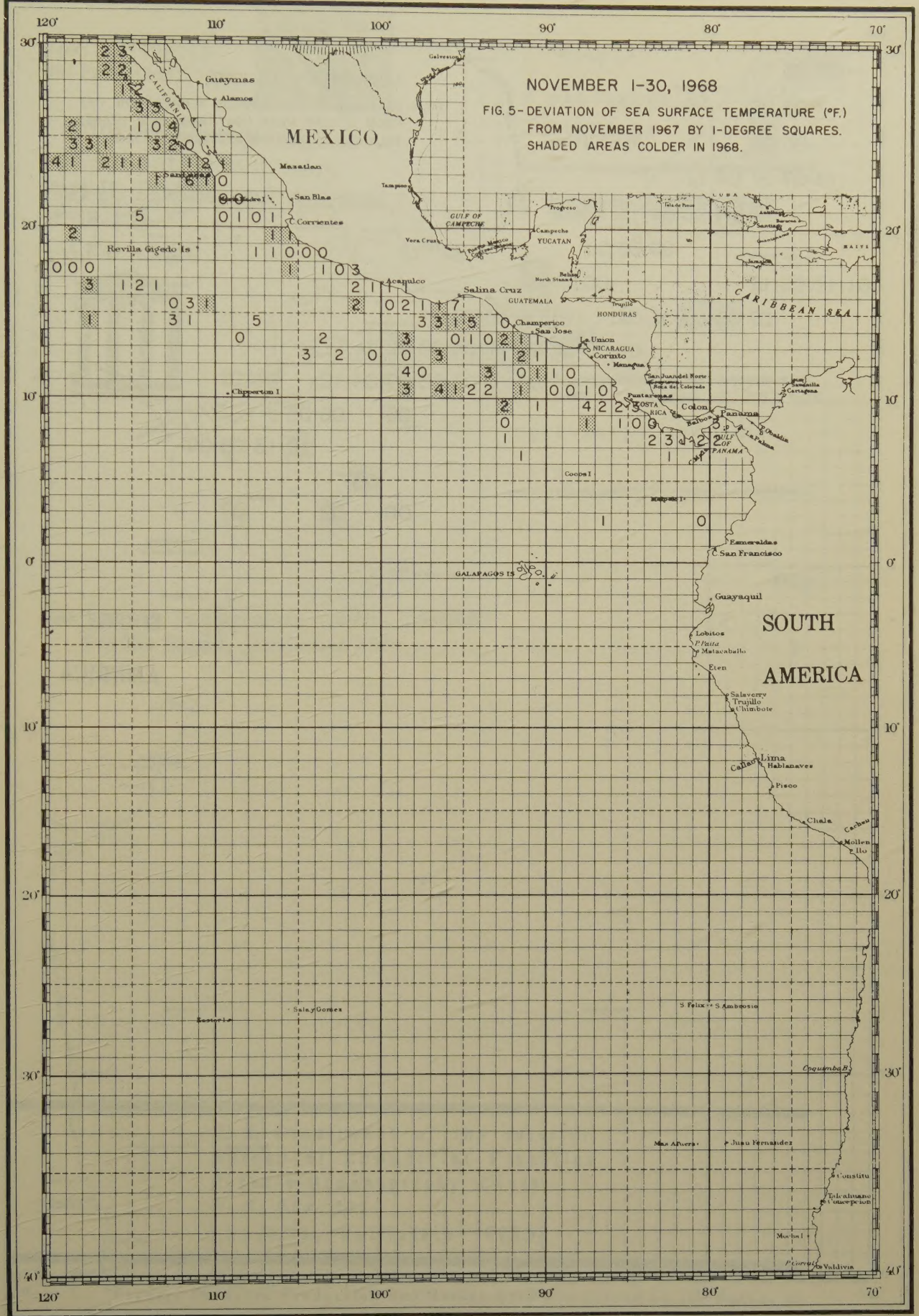
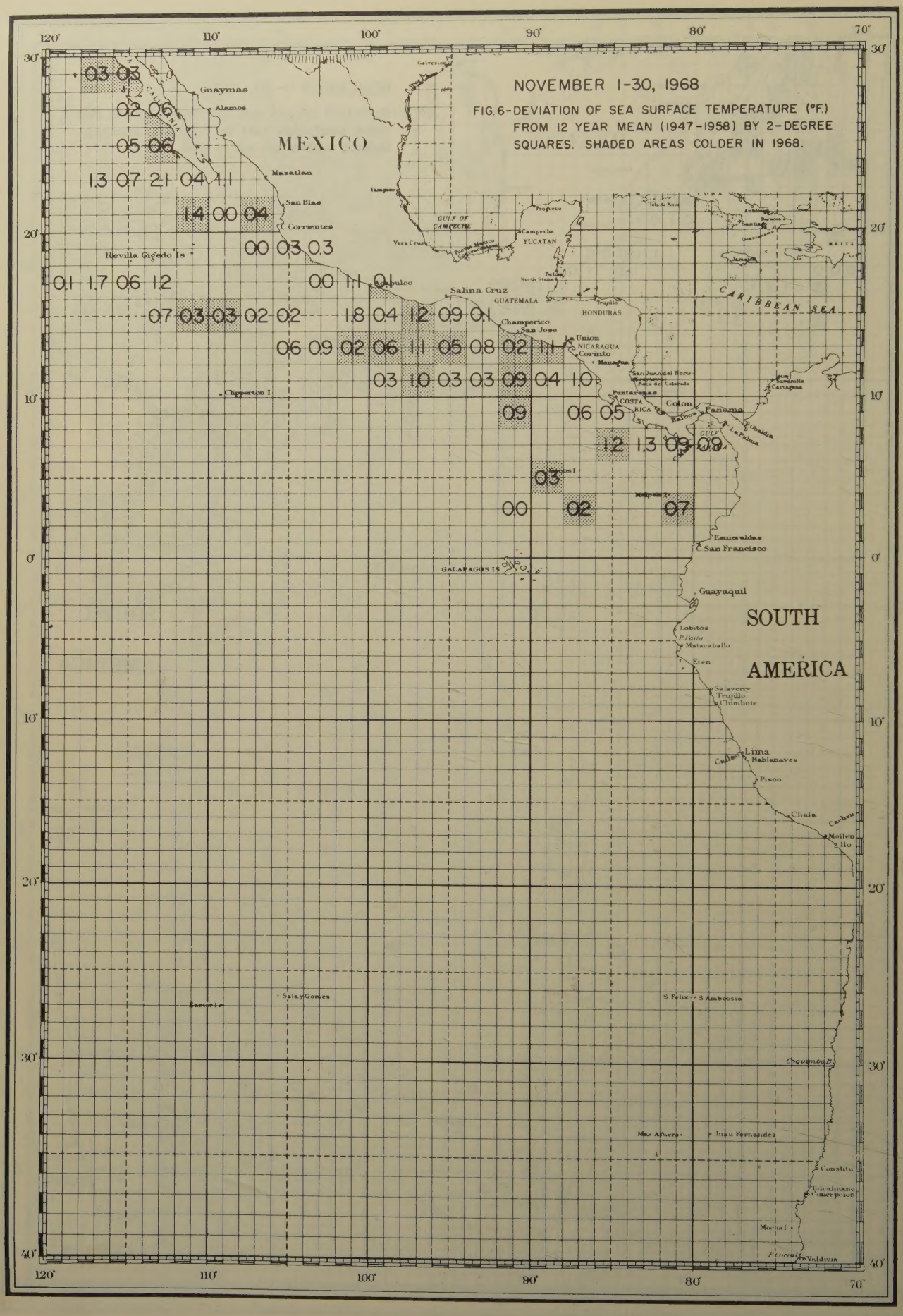

NOVEMBER 1-30, 1968
FIG. 2 - DEVIATION OF SEA SURFACE TEMP. (°F.) FROM LONG TERM MEAN. HATCHED AREAS COLDER IN 1968.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
0
2
4


NOVEMBER 1-30, 1968
FIG.3-DEVIATION OF SEA SURFACE TEMP. (°F.) FROM NOVEMBER 1967. HATCHED AREAS COLDER IN 1968.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


NOVEMBER 1-30, 1968
FIG. 4 - SEA SURFACE TEMPERATURES (°F.) BY 1-DEGREE SQUARES.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
CUBA
YUCATAN
GULF OF CAMPECHE
GALAPAGOS IS.
MARQUESAS
TUAMOTU ARCHIPELAGO
SAMOA ISLANDS
COOK ISLANDS
TONGA ISLANDS
PHOENIX ISLANDS
UNION ISLANDS
BERMUDEZ IS.
Honolulu
Guaymas
Mazatlan
San Blas
Salina Cruz
Champerico
Corinto
Panama
Guayaquil
Lima
Callao
Valparaiso
Tahiti
Easter I.
Pitcairn I.
Juan Fernandez
Mas Afuera
Salas y Gomez
Sarmiento
Chatham Is.
Auckland Is.
Campbell I.
Macquarie I.
Norfolk I.
Kermadec Is.
Raratonga
Nassau I.
Malden I.
Jarvis I.
Johnston I.
Howland I.
Baker I.
Canton I.
Enderbury I.
Christmas I.
Wake I.
Midway Is.
Necker I.
Nihoa I.
Kure I.
Pearl and Hermes Reef
Gardner Pinnacles
Maro Reef
Lisianski I.
Laysan I.
Gambier Is.
Tuamotu Archipelago
Marquesas Is.
Galapagos Is.
Easter


NOVEMBER 1-30, 1968
FIG. 5- DEVIATION OF SEA SURFACE TEMPERATURE (°F.) FROM NOVEMBER 1967 BY 1-DEGREE SQUARES. SHADED AREAS COLDER IN 1968.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CAMPECHE
GULF OF PANAMA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
HAITI
JAMAICA
CUBA
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Revilla Gigedo Is
Acapulco
Salina Cruz
Champerico
San Jose
La Union
Corinto
Managua
Chippertom I
Punta Arenas
Colon
Panama
Cocos I
Esmeraldas
San Francisco
Guayaquil
Lobitos
Paita
Malacaballo
Eten
Salaverry
Trujillo
Chimbote
Callao
Lima
Huacho
Pisco
Chala
Mollendo
Ilo
Sala y Gomez
S. Felix
S. Ambrosio
Juan Fernandez
Valdivia
Progreso
Campeche
YUCATAN
Galveston
Tampico
Vera Cruz
Belize
Trujillo
Cartagena
Barranquilla
Bahia de Caraquez
Chiclayo
Coquimbo
Constitucion
Talcahuano
Corral
Mocha I.
Easter I.


NOVEMBER 1-30, 1968
FIG. 6-DEVIATION OF SEA SURFACE TEMPERATURE (°F.) FROM 12 YEAR MEAN (1947-1958) BY 2-DEGREE SQUARES. SHADED AREAS COLDER IN 1968.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CAMPECHE
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Revilla Gigedo Is
Acapulco
Salina Cruz
Champerico
San Jose
La Union
Corinto
Managua
Chapperton I
Colon
Panama
Esmeraldas
San Francisco
Guayaquil
Lobitos
Talara
Matacaballo
Eten
Salaverry
Trujillo
Chimbote
Lima
Callao
Hablanaves
Pisco
Chala
Cerbeu
Mollendo
Ilo
Sala y Gomez
Easter I
S Felix
S Ambrosio
Juan Fernandez
Mas Afuera
Constitu
Talcahuano
Concepcion
Valdivia
Corcovado B
Tampico
Vera Cruz
Progreso
Campeche
YUCATAN
Belize
Trujillo
Puntarenas
Rio de Colorado
San Juan del Norte
Cartagena
Galveston
Cuba
Jamaica
Haiti
Aruba
Curacao
Santiago
Bahia de Pinos
Rocas
La Plata
Obaldia
Malpelo I
Cocos I
Mocha I
0.3 0.3
0.2 0.6
0.5 0.6
1.3 0.7 2.1 0.4 1.1
1.4 0.0 0.4
0.0 0.3 0.3
0.1 1.7 0.6 1.2
0.0 1.1 0.1
0.7 0.3 0.3 0.2 0.2 1.8 0.4 1.2 0.9 0.1
0.6 0.9 0.2 0.6 1.1 0.5 0.8 0.2 1.1
0.3 1.0 0.3 0.3 0.9 0.4 1.0
0.9 0.6 0.5
1.2 1.3 0.9 0.8
0.3
0.0 0.2 0.7
120° 110° 100° 90° 80° 70°
30° 20° 10° 0° 10° 20° 30° 40°